



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,315	02/26/2002	Roy Martin	S01364/70034 PCL	5492

23628 7590 03/09/2004

WOLF GREENFIELD & SACKS, PC
FEDERAL RESERVE PLAZA
600 ATLANTIC AVENUE
BOSTON, MA 02210-2211

EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
----------	--------------

1724

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,315

Applicant(s)

MARTIN, ROY

Examiner

Frank M. Lawrence

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 17-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date (2).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group 1, claims 1-16 and 37 in Paper No. (January 22, 2004) is acknowledged.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 36 (page 13, line 19). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: in line 3 of claim 13, the comma following "sodium" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claims 13 and 14 each recite the limitation "the halogen species" in line 1. There is insufficient antecedent basis for this limitation in the claims. It appears that each claim should

Art Unit: 1724

depend from claim 2 instead of 1, and that claim 2 should recite that the halogen source adds a halogen species to the system.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3, 4, 6-10, 15, 16 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese publication (JP 11-057752 A).

9. JP '752 teaches a device for controlling TOC component removal from a water system for producing pure water, comprising a source of hydroxyl free radicals connected to the water system and an automatic feedback control device for producing a desired measured TOC yield of 0.5-2.5 mg/L (ppm). The source of free radicals can include a UV/ozone reactor (see machine translation, paragraphs 0001, 0007, 0015, abstract). It is submitted that the chloramine level will be less than 1 ppm because there is no mention of its presence and ultrapure water is obtained.

10. Claims 1-9, 14-16 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Gray et al. (5,470,480).

11. Gray et al. '480 teach a waste water effluent treatment system, comprising a source of hydroxyl free radicals connected to the water system and monitors for organic chlorines, TOC and COD for controlling free radical production. The hydroxyl free radicals are produced from hydrogen peroxide irradiated by UV light at less than 1 kW, and the amount of peroxide used is based on the contaminant measurements (col. 3, lines 38-53, col. 5, lines 9-17, 53-56, col. 6,

Art Unit: 1724

lines 49-67). A source of organic halogens (AOX) is connected to the water system and is reduced to less than 2 ppm, and TOC is reduced to 2 ppm (col. 8, lines 11-63). It is submitted that the chloramine level will be less than 1 ppm because there is no evidence of its presence in the water system.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray et al. '480 in view of Martin et al. (6,149,819).

14. Gray et al. '480 disclose all of the limitations of the claims except that the ORP range in the water is about 750 mV and that a preferred halogen species is added to the water system. Martin et al. '819 disclose a water purification system that uses a halogen such as gaseous chlorine in combination with hydrogen peroxide for oxidation of contaminants in a water system, and measures ORP to maintain it at 750-850 mV (col. 4, lines 21-34, col. 5, lines 46-55, col. 6, lines 15-25). It would have been obvious to one having ordinary skill in the art at the time of the invention to use a halogen such as gaseous chlorine in addition to hydrogen peroxide in order to provide increased purification of contaminants by oxidation and to maintain a preferred ORP level to allow for sanitized conditions while eliminating the accumulation of undesirable halogenated compounds.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose hydroxyl free radical water treatment systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

Frank Lawrence
3-2-04

fl